

REMARKS

Applicants have amended the specification to correct a series of related errors which they did not appreciate until now and thus could not have corrected sooner. The film of this invention has a discharge-treated surface that contains at least 0.3% nitrogen functional groups. Making this surface requires treatment in either a N₂ atmosphere or in an atmosphere that is a mixture of N₂ and CO₂. As explained in the attached Supplemental Declaration of Keunsuk P. Chang, treatment in air or under a CO₂ atmosphere does not produce the claimed nitrogen functional group-containing surface. Furthermore, Comparative Example 4 on page 9 of the specification uses air instead of a mixture of N₂ and CO₂, which shows that the previous references to air in the portions of the specification amended as shown above was clearly an error. Entry of the specification amendments, which serve to correct obvious errors and thus do not raise new issues, is respectfully requested.

Applicants respectfully suggest that the Examiner did not properly make the pending Action final, since she did not follow the requirements of the MPEP with respect to the consideration of declarations filed under 37 CFR 1.132. Although the Examiner acknowledged on page 2 of the Action the receipt of Mr. Chang's declaration, the remainder of the Action says nothing whatever about the Examiner's reaction to Mr. Chang's declaration or any explanation as to why Mr. Chang's declaration fails to put one or more claims of the application in condition for allowance. As explained in MPEP 716.01, "All entered affidavits, declarations, and other evidence traversing rejections are acknowledged *and commented upon* by the Examiner in the next succeeding action. * * *. Where the evidence is insufficient to overcome the rejection, the Examiner *must specifically explain* why the evidence is insufficient. General statements such as 'declaration lacks technical validity' or 'the evidence is not commensurate with the scope of the claims' without an explanation supporting such findings are insufficient." [Emphasis added.] The pending Action does not come close to satisfying these requirements of the MPEP. There is nothing in the Action to indicate that the Examiner considered the merits of Mr. Chang's declaration at all. Applicants therefore respectfully request the Examiner to withdraw the finality

of the pending Action and to issue a further Action complying with the requirements of MPEP 716.01 and explaining specifically why Mr. Chang's declaration is insufficient, if the Examiner considers the claims not be allowable after this amendment.

Applicants respectfully submit that in any event, for the reasons already presented in their prior response, Mr. Chang's declaration shows that the barrier durability properties of the claimed laminate films are unexpected and that at least the claims in this application specifying barrier durability properties, claims 25-46, are patentable over the prior art.

Claims 1-8, 10-16 and 23 stand rejected under 35 USC 103(a) on Tsuchiya. The salient portion of the Examiner's reasoning in support of this rejection reads as follows:

Tsuchiya shows that treated with corona discharge in a CO₂ or N₂ atmosphere (column 6, lines 1-6).

Though Tsuchiya shows that the outer surface of the first polypropylene layer has a nitrogen atom number/carbon atom number ratio of from 0.005 to 0.05 (column 4, lines 59-67), Tsuchiya does not show that the first polyolefin layer comprises at least about 0.3% nitrogen functional groups as in instant claims 1 and 3. * * *. However, such percentages of nitrogen functional groups * * * are properties which can easily be determined by one of ordinary skill in the art. With regard to the limitation of such percentages, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (*e.g.*, percentages) fails to render claims patentable in the absence of unexpected results. All of the aforementioned limitations are result effective as they control the adhesiveness and slip and anti-blocking levels of the film. As such, they are optimizeable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the laminate film with the limitation of the percentages of the nitrogen functional groups * * * since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

This rejection and its supporting reasoning are respectfully traversed.

Although the Examiner is correct in noting that Tsuchiya does not disclose that the surface of the discharge-treated polypropylene layer comprises at least about 0.3% nitrogen functional groups, the Examiner did not read Tsuchiya correctly in its disclosure of corona

discharge-treatment. Column 5, line 65 - column 6, line 6, states, "Corona discharge treatment may be carried out in air, but preferably the corona discharge treatment is carried out in an atmosphere composed mainly of carbon dioxide gas." As explained in the attached Supplemental Declaration of Keunsuk P. Chang, corona discharge treatment in air or under carbon dioxide will not induce *any* nitrogen functional groups in the surface of the discharge-treated polyolefin material. Furthermore, the Examiner did not explain in the Action how Tsuchiya's carbon dioxide atmosphere could possibly produce nitrogen functional groups in the substrate surface. Therefore, not only does Tsuchiya not appreciate this feature of the claimed invention, the corona discharge treatment modes disclosed in Tsuchiya are not capable of producing the claimed results. For this reason alone, Tsuchiya does not create a *prima facie* case of obviousness, so applicants have no burden to show unexpected results in order to overcome this rejection.

In order to expedite prosecution, applicants will explain now why the reasoning of the Examiner as quoted above rests on legally insufficient premises. The Examiner assumes, without any evidence in Tsuchiya, that the nitrogen functional group content of the discharge-treated surface of the polyolefin layer is a result-effective variable. Without evidence in the record that persons of ordinary skill in the art would have considered nitrogen functional group content to be a desirable feature to be attained, let alone a feature whose characteristics are result-effective, the Examiner cannot draw the conclusion that it would have been obvious to optimize nitrogen functional group content at all, let alone in the amounts claimed. *In re Boesch* is not contrary to this, since the court in *Boesch* found that the prior art made out a *prima facie* case of obviousness and that the test results presented by the applicants were not sufficient to overcome the *prima facie* case since they were not commensurate with the scope of the claimed subject matter. There is thus no evidence that the Examiner can point to in Tsuchiya that nitrogen functional group content is a result-effective variable or that it would have been obvious to optimize nitrogen functional group content.

The Court of Appeals for the Federal Circuit has recently made it quite clear that an obviousness rejection cannot be sustained unless the Examiner can point to specific evidence in the prior art of motivation to modify the prior art in order to arrive at the claimed invention. In rejecting claims 1-8, 10-16 and 23, the Examiner relies solely upon Tsuchiya, so it is essential to support this rejection that the Examiner point to specific evidence in Tsuchiya itself to support the conclusion that the invention would have been obvious. The opinion of the court in *In re Lee*, 277 F.3d 1338, 1342-43, 61 USPQ2d 1430 (Fed. Cir. 2002) could not be clearer on this point:

The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied upon as evidence of obviousness. * * *

“The factual inquiry whether to combine references must be thorough and searching.” [Citation omitted.] It must be based on objective evidence of record. This precedent has been reinforced in many decisions, and cannot be dispensed with. [Citations omitted.]

The need for specificity pervades this authority. [Citations omitted.]

The Court in *Lee* explicitly rejected the Examiner’s reference to “common knowledge” and “common sense” as supporting the rejection and held that the Board, and thus the Examiner, is required to provide specific evidence of what the prior art discloses as well as specific evidence of motivation within the prior art cited by the Examiner itself to support findings of obviousness. Under these criteria, there is no evidence that Tsuchiya would have motivated persons of ordinary skill in the art to use corona discharge treatment on the surface of a polyolefin layer so as to induce a nitrogen functional group content of at least about 0.3% as claimed. For these reasons, therefore, the rejection of claims 1-8, 10-16 and 23 under 35 USC 103(a) on Tsuchiya should be withdrawn.

The remaining claims in this application have been rejected under 35 USC 103(a) on combinations of Tsuchiya with other prior art references. The Examiner has repeated virtually verbatim her reasoning with respect to Tsuchiya as to each of these rejections. Thus, the discussion above is sufficient to demonstrate that Tsuchiya is not evidence of obviousness as propounded by the Examiner and that the remaining obviousness rejections should be withdrawn.

In light of the foregoing, early action allowing claims 1-20 and 23-46 is solicited.

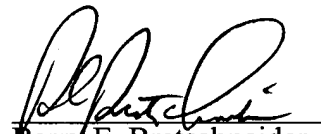
Attached hereto is a marked-up version of the changes made to the specification by this amendment, captioned "Version with markings to show changes made."

In the event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952, referencing 361752000500.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Amend the paragraph at page 3, lines 14-22, as follows:

In one embodiment of the invention the laminate film comprises: a polyolefin resin layer, preferably a resin containing polypropylene; a heat sealable layer or a non-heat sealable, winding layer; and a metal layer. The polyolefin resin layer will have a thickness of about 6 to 40 μm thick. The polyolefin resin layer is discharge treated, and the metal layer deposited on the treated resin layer. The discharge treatment is preferably conducted in an atmosphere of [air, CO_2 ,] N_2 or a mixture [thereof] of CO_2 and N_2 , more preferably in a mixture of CO_2 and N_2 . This method of discharge treatment results in a treated surface that comprises 0.3% or more in atomic % of the surface of nitrogen-bearing functional groups, preferably [0.3% or more nitrogen in atomic %, and more preferably] 0.5% or more [nitrogen] in atomic %.

Amend the paragraph at page 5, lines 20-29, as follows:

The surface of the polyolefin resin layer of the biaxially oriented laminate film is subjected to a discharge treatment, preferably a corona-discharge treatment. The discharge treatment is preferably conducted in an atmosphere of [air, CO_2 ,] N_2 or a mixture [thereof] of CO_2 and N_2 , [and] more preferably in a mixture of CO_2 and N_2 . The treated laminate sheet is then [wounded] wound in a roll. The roll is placed in a metallizing chamber and the metal [was] is vapor-deposited on the discharge treated polyolefin resin layer surface. The metal film may include titanium, vanadium, chromium, [maganese] manganese, iron, cobalt, nickel, copper, zinc, aluminum, gold, or palladium, the preferred being aluminum. The metallized film is then tested for oxygen and moisture permeability, optical density, metal adhesion, and film durability.

Amend the paragraph at page 7, lines 19-27, as follows:

The surface of the polyolefin mixed resin layer of the biaxially oriented laminate film is subjected to a discharge treatment, preferably a corona discharge treatment. The discharge treatment is preferably conducted in an atmosphere of [air, CO_2 ,] N_2 or a mixture [thereof] of N_2 and CO_2 , [and more] preferably in an atmosphere of N_2 and CO_2 . The treated laminate sheet is

then [wounded] wound in a roll. The roll is placed in a metallizing chamber and aluminum [was] is vapor-deposited on the discharge-treated polyolefin mixed resin layer surface. The metal film may comprise any first row transition metal, aluminum, gold, or palladium, the preferred being aluminum. The metallized film is then tested for oxygen and moisture permeability, optical density, metal adhesion, and film durability.